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☞ **The Subscribers to the Southern Agriculturist are reminded, that the Price of the Journal was reduced last year to all those who paid in advance; those who are still in arrears for this and former years are respectfully solicited to make their payments.**

THE SOUTHERN AGRICULTURIST.

(NEW SERIES.)

Vol. IV. FOR FEBRUARY, 1844. No. 2.

For the Southern Agriculturist.

AGAINST PACKING SEA-ISLAND COTTON IN SQUARE BALES.

St. Helena, Dec. 15th, 1843.

To the Editor of the So. Agriculturist,

Dear Sir,—I have been directed by a resolution of the St. Helena Agricultural Society, to send you the enclosed *Report* for publication; which was elicited by a communication from the St. Luke's Agricultural Society, referring them to a Report of theirs which had appeared in your Journal some time before,* setting forth *the advantages of packing Sea-Island Cotton in square bales;* and begging an expression of opinion upon in the subject. This they have done in the following Report, which you will please publish as soon as possible.

Your ob't. serv't.

Daniel Jenkins, *Secretary.*

The Committee to whom was referred the report and resolutions of the *St. Luke's Agricultural Society*, respecting the packing of Sea-Island Cotton in square bales, with the screw press, beg leave respectively to Report.

That they have given the subject the most deliberate attention, and after obtaining all the information in their reach, have come to the conclusion that the mode now in use is preferable. In order to illustrate their views more fully, they would first present the manner of preparing Sea-Island Cotton for the bag, as practiced by our most experienced planters. The cotton being ginned out it is placed in the hands of moter's for the purpose of cleaning it thoroughly before it is packed; and it is very well known that

*See Southern Agriculturist, Vol. for 1842, p. 514.

among these, there are always some on whom a strict reliance can not be placed; a few who will at times be careless. The more fully to counteract this, it is made the business of two or three trusty hands to search it over before it goes to the packer, and it is the packer's business to inspect it in small parcels as it comes from the hands of the overhaulers before it is put into the bag. The check that this method affords in the course of preparation is obvious. The moter is a check on the ginner—the overhauler on the moter—the packer on the overhauler—the master on all.—There are but two objections which can in any way be urged against the present mode of packing, and these are, the time occupied and the injury done by the pestle. As to the time we would say, that it is a matter of small consideration when compared with the advantage it gives, to have every thing done in proper order, and by such certain and slow degrees as to allow most, if not all of the defects to pass under the master's eye; thus affording him an opportunity of having them corrected as far as possible. And with regard to the injury done by the pestle, we would remark that there is none, unless it may be that the sometimes *stringy appearance* of the cotton is produced from this cause; but in our opinion even this is not true as we contend that all the injury is done before it goes to the bag; and we venture the assertion, that *if it is not strung before it is pestled it will not become so afterwards.* We think, too, the difference in the appearence of Cotton prepared by different planters, who use the pestle goes to establish the truth of our position. Your Committee would now advert for a moment to one or two of the most important advantages which it is supposed will result from the use of the Screw press. It is true in the use of it you may save time—it is true you may save human labor—it is true you may pack in one day ten or more bags with one hand, but besides the reasons above given, these are considerations which when viewed properly, militate very much against the use of this labor-saving machine. There is, for instance, the animal to feed—the expense of erecting the screw and press for packing—the house room required to hold the cotton, until you have prepared a sufficient quantity to make a day's work for the press. But there is another view of the question, of greater importance still. You will be necessarily compelled to keep the cotton so long before it

is packed as to injure the fibre by rendering it harsh and dry. And we unhesitatingly assert, from our acquaintance with fine Cottons, that the great pressure of the screw would so *mat* the fibres of each layer together, that it would be less fitted for the opening process it has to be carried through under the hands of the spinner. But why speculate further upon the subject. Experience here as well as upon every other subject connected with planting is the best test. Your Committee have little or no experience themselves, and therefore must have recourse to that of others. In the St. Luke's report it is stated and admitted that a planter in Georgia, packed his crop in square bales with the screw press, sent it to the Savannah market where it could not be sold, and had to repack it at some loss before he could effect a sale. This to your Committee, would seem to be conclusive as it does appear strange that this could have happened unless the experiment had been tried before, and known to the purchaser to be objectionable. But to put the matter beyond all doubt, another experiment has come to the knowledge of your Committee. A planter on St. Helena Island, some years since, packed *ten bags* with the screw press and shipped them direct to the spinner, who acknowledged its receipt and advised *that he should never pack another bale in that manner, for it did not suit their purpose.* These are some of the most important views which have been suggested to your Committee, in the consideration of the subject; and, while differing in opinion from our sister society of St. Lukes, their object has been not only to express that difference by answering the communication which was addressed to them, but to sustain that spirit of mutual intercourse and inquiry which should characterise the whole Agricultural community.

All of which is respectfully submitted,

JOSEPH HAZEL,
JOS. J. POPE, Sen. } Committee.
EDGAR FRIPP,

BLACK OAK AGRICULTURAL SOCIETY.

On the Santee Long Cotton Crop.

Mr. Editor,—At the last meeting of the Black Oak Agricultural Society, it was determined, with a view of ascertaning the relative amounts of the Santee Long Cotton crop, made in this

section of country during the past year and in 1842, to appoint a committee to inquire of each individual the number of bales made during those years, and to report the aggregate amount thereof to the Secretary, who was requested to publish the same as by authority of the Society.

In compliance with this request, I give you the annexed statement of the number of bales (of 300 lbs.) produced in each section respectively, viz:

	1842.	1843.
In St, Stephen's,	324	151
" Upper St. John's,	1056⅔	325⅓
" Middle St. John's,	1215	701
Aggregate amounts,	2595⅔	1177⅓

From a few, returns have not been received in time for this publication, but it is believed that 150 or at most 200 bales would cover all deficiences.

It will be seen by this statement, that the crop of last year has fallen short of that of 1842 by more than one half. The cause of this we may find in the unusually cold and late spring, which prevented the Planters from putting their seed in the ground before the 10th or 15th of April, and a continued drought from that time until the 10th of May, gave too short a season to the plant to arrive at full maturity. Very little Cotton was up before the 15th of May. In addition to these causes which were unfavorably felt throughout the State, we were visited with three hail storms during the months of May and June, which did great injury to the crops of Upper St. John's and St. Stephen's

The description of cotton known in the market as the Santee Long Cotton, is confined entirely within the geographical limits of this Society. The above statement will therefore exhibit very nearly the exact amount of that knd of cotton to be sent to market the present season.

Respectfully,

H. W. RAVENEL,

Secretary of Black Oak Agricultural Society.

E. RUFFIN'S OPINION AND EXPERIENCE ON THE UTILITY OF USING MARL FOR THE IMPROVEMENT OF WORN-OUT LANDS.

The following remarks were made at a dinner given to Mr. Ruffin, at Garysville, by the Farmers of Prince George County, Va. in consideration of the distinguished services rendered by him in promoting the agricultural interests of that County, by the practical use of marl as a manure, and by his Essays on that subject. In the invitation they say that—"feeling as we sensibly do, that we are mainly indebted to you for whatever share of prosperity we enjoy as farmers, loving you as a man, esteeming you as a neighbor, and honoring you as a benefactor, we should be wanting in justice to our feelings if we did not assure you of the sincere pleasure it gives us to announce to you the wishes of your countrymen." This is signed by the following highly respectable Committee, Theodoric Bland, Elgin Russell, W. Simmons, Wm. E. Proctor, Thomas H. Daniel, Tim Rives, Wm. Shands, Sen.

In accordance with arrangements, a number of the Farmers of Prince George, with several invited guests, partook on the 28th, of an elegant and sumptuous dinner, served by Mr. Thos. Gary, who well snstained the ancient credit of "the Merry Oaks." Thomas Peyton Bolling, Esq, presided, and was assisted by Richard Batte, Esq.

A number of regular and volunteer Toasts were given on the occasion, and the 4th and 5th, were as follows,

Edmund Ruffin—The pioneer of Marling, the author of the "Essay on Calcareous Manures," and Editor of the "Farmers' Register,"—imperishable works of genius and industry—we deeply regret his intention to leave us; he carries with him our highest respect for his character, and gratitude for his services.

South Carolina—Our Sister Republic, about to commence the working of her extensive Marl beds, we hail her citizens as fellow-workers in the good cause, and wish them all the success which their public spirit and energy so eminently deserve.

Upon the reading of the 4th toast, Mr. Ruffin rose and replied, in substance, as follows:

Unused as I have been to public speaking, it would be a difficult, if not imposible task for me to return thanks in a proper manner, when thus called upon—even were the circumstances of the call as common-place as such compliments and such returns of thanks usually are. But I am now before you, my friends, under very different and peculiar circumstances—the force of which I feel most deeply, and the extent of which my poor expressions can but vainly attempt to approach.

I see around me here nearly all of those now living who were both my neighbors and friends from 25 to 30 years ago, and who, afterwards, with different degrees of preliminary distrust and delay, followed my example and instructions in the application of calcareous manures. The far greater number, however, of my former companions and seniors, and among them all the most distinguished

and successful of my earliest disciples, have been removed by death, But every one, of both the living and the dead, has sons or successors who have since prosecuted and extended the good work of fertilization, and all of whom, with many others who are no less interested, I now see assembled here to welcome and to honor me, and to unite in testifying their high appreciation of the benefits they have derived from a single source, and which benefits they ascribe to my agency. I need not my friends, say another word to express more fully and vividly my heartfelt sense of the honors you have heaped upon me by your present procedure. And in place of all effort to express my feelings in words, and in detail, I beg you to believe that this manifestation of your estimate of my services makes this day one of the happiest, and altogether the proudest of my life. And on this head, or on whatever is merely personal to myself, I have now said enough. The occasion, however, demands of me something more in reference to your own labors and your own merits.

I will not my friends, affect to depreciate below your own high estimate, (high, at least, as some might suppose,) the measure of pecuniary profit which you have derived from marling or liming your lands. Perhaps, from my consideration of the values of all *permanent* improvements of capital, I might even raise the estimate much higher than you have done. And, on this head, I am the more free to utter my opinions, because the results are mostly your own work; and the credit is due to your own good judgment, your readiness to throw aside old prejudices, and to receive new truths, and to your industry and perseverance in putting your new lights into execution. There is always in the world enough of good advice and valuable instruction to be had for every man's use—and the offering such is a merit much less rare than that of following and profiting by it. And the latter, in regard to Agriculture, is no small merit. For in all the history of Agriculture, there is no fact more general and more obvious, than the extreme slowness and difficulty with which all great improvements have been introduced. Very different have been the results in your case. Within ten years after the first successful experiment made in this county, or the first annunciation of correct views of the action of calcareous manures, there was scarcely a land-holder, having marl and knowing it, who had not commenced its use, to greater or less extent. There were no exceptions, (as might have been expected,) because of the poverty of some, or the old age or infirmities of others. Four of our county-men, known to all who hear me, who were among the most zealous and energetic marlers for their circumstances, commenced their operations when severally at ages from 58 to 75 years.

At this time, I presume that there are few if any persons who commenced marling as far back as ten years ago, and prosecuted the work steadily afterwards, whose farms are now doubled, if not

tripled, in productive value, from this one source of increase alone. Nor is this early and unusually rapid progress, which you have made in this mode of improvement, owing merely, as some might infer, to the superior profit which it promises in advance of its actual trial. For though truly it presents that claim for preference, and though that claim has been made known by publications, to at least, all the reading and most intelligent agriculturists of the United States, still, no where else have the practical operations compared with yours, and those of lower Virginia generally. In western New York, where Agriculture, in general, is better conducted than with us, the many valuable beds of marl remaian untouched. Rich shell-marl, of fresh-water formation, is found in New Jersey, Vermont, and probably in most or all other of the Nothern States; and not one trial has been made of them, or if made, has yet been published. Not the least interest on the subject seems to have been excited there. Indeed, not long ago, the Editor of an Agricultural paper, (the Massachusetts Ploughman,) and he a practical farmer, proclaimed his doubts of the utility or profit of lime as a manure; and Dr. Dana, a distinguished and popular writer on Agricultural chemistry, in his "Muck Manual," treats with denial and contempt the doctrine of the general deficiency of lime in soils, and the necessity for a greater supply. Indeed, he maintains that every soil, even the poorest and most destitute in Massachusetts, has already an abundant natural supply of lime. Thus, even at this late day, your practice is far from having the general support either of the practical farmers, or the scientific writers and Agriculturists of the North. Then as to practice, and in regions more like your own, and nearer home.—In North Carolina, where the marl beds are rich and extensive, but little use has been made of them; and none at all in Georgia, where they have been much more bounteously bestowed. In South Carolina, also, very little of thought and less labor had been given to this source of wealth before the present year. But it is just and proper to add, that however late in beginning, most of the intelligent planters of South-Carolina are now well awakened to the value of this improvement, and many have already commenced marling, and some of them are making unexampled progress. The planters of that State will not long be behind any in Virginia in the extent, at least, of their marling and liming operations.

The few among this company who are as old residents of Prince George county as myself, can as well remember our Agricultural and social condition, before there existed either practice, knowledge, or even hope of profitable or abiding improvement of our land, or our agricultural condition, whether from marling or liming, or from any other source. And the former condition of things, and the strong contrast to the present, can hardly be realized by those who were then children, or unborn. Twenty-five years ago, there was

scarcely a proprietor in my neighborhood, and deriving his income from his cultivation, who did not desire to sell his land; and who was prevented only by the impossibility of finding a purchaser, unless at half of the then very low estimated values and prices for lands. All wished to sell—none to buy. If a stranger had been inclined to settle among us, he might have chosen almost any farm in the county, and would scarcely have failed to find the owner glad to sell, and at a low price. And if so strange a fancy had possessed one or more persons as to wish to buy 20 contiguous farms, and the wish and intention had been advertised, so far from the market price being raised by so sudden and large a demand, the previous prices asked would probably have been even reduced, by the eager competition of those desiring to be among the lucky sellers and fearing to miss so rare a chance; and all of whom, so soon as thus released from their previous tie and encumbrance, would have gone their way, rejoicing, to aid in filling up the great western wilderness.

Now mark the contrast since presented. In all of this my old neighborhood, and, so far as I know, throughout the whole county, not one individual, after beginning to marl, has emigrated or desired to emigrate. Yet within the same space of time, the rage for emigration has passed over other parts of Virginia like a pestilence, leaving marks of desolation which will scarcely be effaced by twenty years of subsequent industry and prosperity. The prices of lands here have greatly increased, though less than their true value. But I now not how to estimate the rate of increase, because sales are now even more rare than formerly, though for the opposite reason. Then it was that nobody would buy. Now no body will sell. This I have cause to know to my sorrow, so far as personal feeling and interest are concerned. For I have been anxious for several years to buy some farm in my old neighborhood, and near to the homes of my older and settled children, and to pass the remainder of my declining years near where I was born, and have lived and labored longest. And my anxious effort to buy has been in vain; no propretor being willing to sell any farm worth the buying as a residence. And in consequence of this disappointment, and despair of doing better, I have recently bought a farm so remote, that, with all its great advantages, I shall go to it with the reluctant feelings of an exile.

But estimates of increased production, and of increased values and prices of your marled lands, even though the one or the other may be tripled or quadrupled, do not indicate all, or the most important benefits you have derived from marling. There has been produced a still more valuable improvement in the people themselves—in industry, general habits, demand for and acquirement of education, and in all the results which are sure to proceed from these causes. Up to the time so often referred to, twenty-five

years ago, and still later, the former large estates of this county, in every successive generation, had been more and more reduced in size, as well as all lands in their rate of production. Almost every man was growing poorer, or the prospects of his family becoming worse. The grade of society had been, and still continued to be decidedly on the decline. And the proprietors, having no hope of the improvement of their lands, or of being remunerated for ever so great industry and devotion to their business, thought it as well to bestow very little. Accordingly, like the inhabitants of a city ravaged by the plague, and from the like motives, they thought more of present enjoyment, than of providing for future wants; and there prevailed generally habits of idleness, and improvidence, of pleasure-seeking, and of neglect of business, with all their necessary consequences. Now all has been changed. I know no where a more industrious and steadily thriving community than is now exhibited in the present occupants of the same ground. Among them, I believe it would be difficult to find a young land-holder who is not industrious, attentive to his business, and thriving in his operations; and if *seeking* pleasure less than his predecessors *finding* it far more successfully, in steady attention to the cultivation and improvement of his farm. And this change, and all these results and benefits, economical, social and moral, are mainly owing to this one circumstance—*that every man has now presented to him, in certain prospect, a full and sure reward for his labors.* And that prospect, alone, will serve to render any community industrious and frugal; as the absence of all such prospect will as surely render any community, in the general, idle, careless, and wasteful of their means.

Mr. R. closed with the following sentiment; *The farmers of Prince George county*—May the benefits which they have already derived from the use of Calcareous manures, continue to increase and remain to them and their children's children.

The President read a letter from the Committee appointed to procure certain articles of plate to be presented to Mr. Ruffin, regretting that it had proved impossible to procure them by the appointed day, the 28th.

Upon which, Mr. Ruffin remarked to the company that the plate with its devices and inscriptions, should be received by him with warm gratitude, and held as among the most inestimable of his possessions. And that he trusted that descending from father to son, it might long remain an heir-loom in the family as a permanent testimonial of the friendly sentiments which they had this day been pleased to express towards him.

[The plate will, it is understood, consist of a pair of pitchers and waiters.]

We perceive that Mr. Tuomey, who was lately appointed to succeed Mr. Ruffin in his office in this State was present.

From the South-Carolinian.

GEOLOGICAL SURVEY OF SOUTH-CAROLINA.

The appointment of Mr. Tuomey of Petersburg, Va., as Geological Surveyor of the State, will perfect a system of investigation, the beneficial consequences of which, will greatly promote our State prosperity. Mr. Ruffin has awakened a spirit of experiment and inquiry which has given a new impulse to agriculture. His information about marl alone is highly important. Planters have been accustomed to see it every day, who did not, neither know what it was, or was good for. And in many places, on the Sea-Islands for instance, where its existence was doubtful, Mr. Ruffin has discovered and brought it into use. Mr. Toomey will now incorporate his investigations of Mr. Ruffin's labors and carry out his researches. He will at once resort to the back country, and examine all the indications the country affords of ores, metals, minerals, &c. In Spartanburgh there are many indications of Coal, and if this deposit can be established, who can declare the wealth that will be added, not to that section of country alone, but to the whole State, in the supply of that article, as well as the establishment of manufactures of cotton, and other articles which will be suggested to the enterprize of our people. These will naturally promote the agriculture of the surrounding conntry by the consumption of all agricultural products, besides giving value to land, and employment to redundant population.

It is to be hoped that the inhabitants throughout the section of country, through which Mr. Toomey will pass, will give him every opportunity and facility of investigation, by inviting him to their meetings, and, without waiting for the formality of an invitation, call on him, and speak with and consult him, and point out their various deposites of Gold, Silver, Iron, Marble, Granite, and all else they may think they possess.

From the Albany Cultivator.

THE IMPROVED CULTURE OF COTTON.—No. III.

Messrs. Gaylord & Tucker,—Entertaining the profoundest respect and the kindest feelings towards the opinions and practices of those planters who are greatly my seniors in age and in agricultural experience, I propose now, in this third paper, to engage in discussing "the principles and philosophy of this improvement in the culture of Cotton." I will first remark, directly, gentlemen, what I have intimated throughout this correspondence—that in conducting these experiments, and in advocating the claims of this improvement, (the leading and meritorious features of which belong to your invaluable Cultivator,) I have had no ambition to gratify, which is not common to the lover of science and agricultural improvement; nor have I any interests to subserve thereby,

which may not be the privilege of every planter in the country, however humble his pretensions or ability. Yet, admonished as I have been, by the precipitate and unmeasured tirade of vituperation and spleen, which my first paper excited among the *corps editorial* of the country, and others of the "skinning gentry," I have not ventured upon this most delicate position, though long promised, without again revising carefully and practically, the principles and ability of this system.

In my first paper it will be recollected, I stated the grand object which this system of improved culture proposes to accomplish for the planting interest of the country, and I also gave there a fair and impartial, and a most satisfactory expose of that system, (if such it may be styled,) by which the cotton plant is at present grown. In my second number, I gave in detail, in an equally plain and simple manner, the *modus operandi* by which my experiments were conducted; this was no second hand report, or sayso of another person, but in part the work of my own hands, and the entire management under my immediate supervision. In this paper, I propose giving *the why and the wherefore*, for all this—at least, in my humble opinion; and to point out the *inconsistent*, the *reckless* and *grassy* policy of the present practices of the country, as compared with the *systematic*, *economical* and *philosophic* policy of this improvement.

It is my purpose, gentlemen, first to give you a correct sketch of the botanic characteristics of the cotton plant, as we meet with it under the circumstance of its most favorable culture. I do not offer this in the spirit of ostentation, to appear learned from the technicals used, (the necessary peculiarity of every science.) My object is simply to call attention to a subject—too much neglected by planters—about which the books are carelessly in error; and a proper knowledge of which, in my opinion, tends greatly to indicate the best or right mode of culture.

The botanic name then, of the plant we cultivate, is *Gossypium herbaceum;* we find it in the fifteenth class of the Linnean system, (*Monadelphia,*) and in the thirteenth order, (*Polyandria.*) The first leaves that make their appearance after the cotyledons, three to six, are *ovate* and indicate certainly the sucker or branch limbs, that will first put out from the stalk. After these, we have the cotton leaf proper, *three to five lobed*, and mercronate, with one gland upon the *mid-rib* beneath; these leaves invariably indicate the arm limb, growing out horizontally, and articulated, forming at each joint one or more balls; coming out with the arm limb, we have almost invariably a branch limb, with several balls—or a stem with one to three balls. The stalk is *ligno*-herbaceous and *pubescent*—and in our climate an annual, attaining the height of *six to ten feet*. The period of flowering is from 10th *June to frost;* the calix double, the outer one three-cleft; capsule, 3 to 5 *celled*, with 7 to 9 *seeds* in a cell, involved in the staple. Early in the

morning the *milk white** bloom may be seen, in the form of a conic scroll, emerging from the fringe work of its outer calix; and with the rising sun it unfolds the segment of its petal, and by one hour by sun we behold the full blown bell-formed flower. Thus, blooming white, it remains till 12 o'clock, when within 15 minutes thereafter, we may observe by the naked eye, a faint ray of pink skirting the thin margins of the segments, which pink color may be seen by one to two o'clock, to have diffused itself throughout the bloom. It thus continues changing from white to red, till sun up the next morning, when it will be found a beautiful brilliant pink; now with the rising sun it gradually wilts, and by 12 o'clock it drops off, leaving a distinctly formed ball, securely sheltered by its calix.

This description, which is strictly correct, differs in several of its particulars from Eaton's and from the miserable erroneous engraving and description of the same, to be found at page 307 of "Sears' Wonders of the World." and yet strange to say, this same engraving, with probably but a single correct feature, is copied into the "American Agriculturist," in illustration of an article by Dr. Phillips. I might point out a half dozen errors in that engraving; it will answer my present purposes however, that I detain you with but two or three such notices. You will first observe the bloom and the description given, and you will agree with me at once, that Mr. Sears has been *bugged* by an okra flower; the cotton bloom in its healthy state, is never so much flared, nor has it any *red spots* in the bottom. Observe again to the left, that young ball with its *drooping calix*; that is altogether unnatural, and is never seen except where the worm is or has been. You will observe the same error in the opening ball; every little boy, who has picked but fifty pounds of cotton, will tell you if that were the fact, there would be no trashy cotton. I am sure Dr. Phillips has detected these blunders, with others equally evident. This I suppose will be considered a small matter, about which nobody is at fault; because even intelligent planters have never thought it worth while to give a correct description of the cotton plant. This same carelessness is observed, when we cast our eyes upon the large map of Alabama; we there see a most imposing engraving of a large *fancy plant*, with its one hundred and one errors, if called a cotton plant. Observe again, the beautiful and chaste vignette of our own excellent and cherished *Southern Cultivator;* we see their an engraving designed for the cotton plant, yet I am sure if the *pendent* open balls were painted *red*, you would sooner take it for a pomegranate bush?

To the planter who is satisfied merely to plod along the inanimate imitator of some skinning neighbor, this sketch will appear a tedious and uninteresting detail. I am convinced, however, of its importance,—and there is a spirit of improvement abroad in the land, which requires just such detail of fact; because it is not possible, at

* The Sea-Island Cotton bloom is yellow.

least it is extremely improbable, that we succeed in improving and perfecting the culture of any article of vegetation until we make ourselves *well* acquainted with its natural characteristics. Hence I remark, that when we look upon the stately pyramidal appearance of an improved cotton stalk, grown under favorable circumstances, we observe at once—indeed, we are forcibly struck with the distance proper in its arrangement upon the soil, which is so clearly indicated. Again, we observe an uncommonly large amount of foliage for an annual, besides some 3 to 4 lbs. of seed cotton upon the stalk—literally crowded from its base, upon an area of some 15 to 20 square feet, to its apex, at the height of 6 feet. Now in view of these clearly established facts, the invariable effect of certain well defined causes, I shall not suppose any planter so dull as not to know what course to pursue, if he finds that it requires a given amount of grain to grow a pig to a given size in one year, that to produce another such pig the next season, the necessary amount of food or grain must be first supplied. Without the food, the pig will be found at the end of the year a *landpike*; and so the cotton, without the geine or manure, will be found, as is too common, the *little Federick!* Where I to assume an affirmative position in this analogy, every planter would reply instanter, and most indignantly too,—Sir, you are behind the times; our own sage Franklin, more than a half century ago, in his friendly advice to Poor Richard, has assured us "that by constantly taking out of the meal tub and never putting in, we shall soon find the bottom." Philosophically true this—good homespun and sound doctrine; yet plain and simple as be this doctrine, the cotton planter knows it only in song—his acquantance with this golden truth is theoretic entirely. His exhausted fields and dwarfish puny cotton, tell tales more positively contradictory and gloomy, than I have room or inclination here to enumerate.

The governing principle then, in this improvement, is to give constant and diligent attention to keep the *meal tub well supplied.* In the first place, produce and haul out upon your land a sufficiency of good manure, fully to supply the requirements of the plant all the season. In another place, I have shown it is a perfectly easy matter to produce this manure, to which I will further add here, that the decaying materials abound spontaneously, scattered up and down, filling each nook and corner on every plantation, during all the season, a wasting nuisance that might be easily collected and converted into a profitable revenue, if but one-third the time and attetinon otherwise sedulously consumed in the butchery of the soil, in a petit war against grass and weeds, the inevitable products of such latitudinarian systems of culture, was devoted to that most valuable employment. In this important department of agriculture, science is actively engaged in rendering the planter the most essential service.

Having derived these important indications from the figure and natural characteristics of a perfectly matured cotton plant, the judgment of the planter is brought into active requisition in properly adjusting its relative position in width of row and its situation on the drill, in order that we secure the greatest possible advantage in its subsequent culture. My own experience inclines me to the opinion that when land is improved only to the extent of 150 to 200 bushels of manure per acre, less than fifteen square superficial feet to each stalk will be too close. Nor will improvement carried to five times that extent, require greater distance than twenty square feet to each stalk. Since then, it is found necessary that each stalk occupy this distance, it would appear that the simplest course would be to lay off the rows equidistant each way. The question is frequently asked, 'Why not lay off the land 4 by 4 feet, or 5 by 4 feet?' There is a very serious objection to this simple plan, which every planter must perceive on a moment's reflection. In either case, the cotton will be found so entirely interlocked by the 20th June to the 1st of July, as to forbid further work; yet we find, under the most favorable circumstances of seasons and culture, that it will take the stalk until the 10th of July to attain the height of six feet, short of which we should not top it, not earlier in the season; and it is very desirable, and highly necessary even, that the cotton be swept once after topping it, which we find impracticable unless the rows be laid off wide one way, with a view to that operation. Upon land then, that is but moderately improved, I prefer the rows north and south 5 feet, by 3 feet east and west; and upon land in a higher state of improvement, 6 feet by 40 inches will be found the best distance. Though we shall find the stalk a little crowded the narrow way by this course, yet we secure the more important advantage, in being able to scrape and pulverize the surface later in the season. I suppose there to be other advantages likewise in this plan of laying the rows at right angles, north and south, and east and west, and bedding the land north and south, to which, however, I must refer at another time.

The next object to which I shall direct your attention, is the mode of culture which I conceive to be necessary in the after management of the cotton plant; the correctness, and even superiority of which, I hope to establish as clearly here, as in practice it has so triumphantly succeeded. The constant and invariable success which attends this improvement in my hands, is the result of a *strict and scrupulous adherence to system in its management.* Every science and every profession among men, which is either useful or valuable, acquires both respect and importance on account of system. System is essential to certain success in every undertaking; and especially is it necessary in this first of all professions. The principal object we have had in view, in all this manuring, thorough ploughing, laying off and bedding the land previous to planting the seed, has not been to plant alone; men plant abstractly, as

handsomely and with the same facility, with less labor; it has been done to encourage and facilitate the early and extensive growth of the fibrous and soil-roots, by which means the plant readily, and equally early, augments to extent of surface (in number and length of its limbs,) for fruiting, and the consequent number of its organs of atmospheric nutrition. The immense advantages which the plant derives from an early accomplishment of an object so desirable, is at once obvious when we recollect "that the soil and atmosphere offer the same kind of nourishment to the roots and leaves of the plant." There can be no reasonable doubt, though we possess not the means of positive measurement, but that the plant multiplies its organs of atmospheric nutrition in precisely the same ratio that an improved and judicious system of culture facilitates the growth and prosperity of its roots. There is also another interesting consideration connected with this subject, which I esteem worthy of notice in this place; which is, that though the soil and atmosphere offer the same kind of nourishment to the roots and leaves of the plant, yet the character of its assimilation and consequent appropriation widely differ. My own opinion is, that the roots assimilate food for the production of the stems and leaves mainly, and that the leaves assimilate the same for the production and maturity as the blooms and fruit. I do not claim originality for this opinion; I think I have seen it hinted at in some work on vegetable physiology, though I cannot now say where.* I have been governed by this impression, at least in conducting my experiments, which have not as yet been of a sufficiently varied character to enable me to determine and assert the fact positively. My attention was first called to this interesting subject while investigating the cause and effect of rust upon the cotton plant, which every planter has seen, some of the features of which would seem to strengthen this position. How desirable is it, then, if all this be fact, that we adopt such system in our after management as will not only preserve this natural chain of action unimpaired, but encourage its progressive prosperity? It is not enough, however, that we thus dismiss this part of the subject; its importance requires of us a much more simple and extended view.

We will commence then, at that age of the plant at which it is first worked, by examining the roots of two stalks; we pull up one in the ordinary way of thinning cotton, that is, we take hold of the stem and draw it up, and we have a single long root (in most instances) tapering to a point; we have simply the tap-root. We will take up the other with a spade or hoe, the stalk standing in the

* Since writing the above, I see, in a report of the sitting of the Academy of Science for August the 14th, a paper was received from M. Dutrochet, on the production and ripening of fruits. This gentleman states "that the removal of the leaves of fruit trees, in order to expose the fruit to the direct influence of the air and light, is exceedingly destructive." I suppose he means destructive to the fruit. If so, his experiments would seem to corroborate this opinion.

centre of some six to eight inches square of soil; we then gently sift or shake the soil from the roots, and we have a fair specimen of the cotton root: we have what is properly meant by tap-root, a plant with a main root long and tap-like or tapering, dipping deep into the soil; beside this tap-root, however, we find an almost innumerable quantity of fibrous or surface roots diverging in every direction, as long in many instances as the tap-root itself, and coming out generally from one-half to one inch below the surface. This is a fact worthy of notice, with which every planter may, if not already aware of it, acquaint himself early the next season. This may appear to some persons a very simple and a very trivial investigation, yet I find in it a most satisfactory solution of the immense injury which the cotton plant sustains from the multifarious policy of the country. I remark then, as the plant comes forward, so the tap-root (where it exists, though an unnecessary appendage in our climate,) sinks deep into the soil, while the fibrous or surface roots multiply and shoot in every direction; hence, I say, "as early as possibly convenient" after the plant is up, "plough out the middles *well*, the wide way, having first run around the plant with a scooter plough." The main object in this operation, is once more, before the surface roots have come out so far as to sustain injury, to thoroughly loosen the soil and again commingle it with the manure. The plant being now thinned down to two or three stalks, and a quantity of soil molded about the hill, is left in this most favorable and growing situation. In the course of some fifteen to twenty days, when we return to work it again, it will be found to have come forward rapidly, standing from 12 to 15 inches in height and finely limbed. If we now take the trouble to examine a hill or stalk, we shall find an amount of earth included within the circuit of these fibrous and soil roots, as they penetrate all parts of the loamy mold in pursuit of the luscious geine, (like a flock of sheep fresh upon a rich pasture,) that weigh more than a hand can tote. With these facts before us, let us turn our attention for a moment to the practices of the country at this stage of operations. One planter will now commence work, and the plant standing from 10 to 12 inches high, "with a bull-tongue or scooter plough," and he will dagger into the soil, as close to the plant as he can possibly get, some 3 to 4 inches deep—he says, "to loose up the earth, that the tap-root may go down." Another planter will again, the second and third time, run the bar of a turn plough to the cotton—he says, "to kill the grass;" thus it stands bedded in the middles, and "steaming" a few days, when these hot beds are ploughed out; though I have even seen it barred the third time before ploughing out the middles! All this may answer the *purpose fully*, and even look very well to the planter that operates to kill grass; but we have a latent cause operating destructively in this practice, and though the *certain effect* is not always willingly recognized in the turning yellow and falling leaves of the plant, it is not

however, the less obvious. The planters operating thus, will tell you, in the first instance, "this cotton has received a fine working; there's not a sprig of grass or weeds to be seen; but it does not grow off as it should; this *little dry spell* has checked its growth." But partial showers may have fallen upon the other man's cotton; he says, "See my cotton, how clean and nice its worked, though it is too wet, and does not grow; *rainy weather* does not suit cotton." This is the logic (I will not say universal,) of the devotees of this *grass killing* policy, in accounting for its disastrous consequences, and will, I am sure, be very readily recognized as such by every impartial man. Now, the truth is, I will illustrate the whole difficulty here, by a very simple, though rather uncouth simile; it is, however, not the less pertinent to my present purpose, because men are not to be benefited, nor will they improve in the practice of any science or profession, unless they exercise the faculties of thinking and reasoning, though such exercise be bought at the expense of decent ridicule. We will suppose the planter operating in this way, having received a pair of fine Berkshire pigs, says to his trusty man, Sambo, "take this bushel of corn to the barn-yard and feed those pigs well; I want them to grow *large* and *fat*." Well, Sambo, always anxious to carry out the views of his master, and having carefully watched his operations in the treatment of his cotton, to make *it grow large*, takes up the basket, and then providing himself with a hammer or hatchet, he proceeds to the yard; he first takes hold upon the gentle, unsuspecting grunters, one by one, and with his instrument he knocks or breaks out their teeth, and then throwing down the corn, he returns to the house with spirits buoyant in the consciousness of having so consistently discharged his duty! "Well, Sambo, you have given those pigs plenty of corn, ha?" "Yes sir, they are well fed." In a few days he takes a friend to look at the fine Berkshires. Yes, Sambo has given them corn plentifully; there it lies by them! But this is too plain a case; the pigs have the *teeth-ache and they are broken off!* And yet the pigs like the cotton, have only *their* teeth broken off!! Poor Sambo! we leave him to explain to the world the *rationale* of this *root and teeth breaking policy*.

N. B. Cloud, M. D.

Macon Co. Ala., Nov. 1, 1843.

The "*American Farmer*" in copying the foregoing, makes the following remarks, which we heartily concur in:—

"As we have already published the two preceding Essays of Dr. Cloud, we insert the present one with feelings of pride and pleasure, and will be indulged with the hope, that, as he has entered on so glorious a field of *enterprise and inquiry*, with the lights of science to guide his steps, he will not permit the idle jeers of the thoughtless to arrest or impede his course, until he shall have crowned his labors with a degree of success that will put his assailants in coventry.

From the South Western Farmer.

ON GROWING COTTON.

Mr. N. G. North: The year is now in its closing moments, and the results of its productions are computable or perhaps are already computed. With me it is so. I am now in possession of the knowledge of all that has been done on my place as to the amount of crops and the effects of cultivation. My crop is short seventy-five bales; (it never went beyond two hundred;) but even at that it is much better than the crops of many of my neighbors, and I believe that it is owing to my method of cultivation, which is this: I plough deeper and give my cotton more room, or in other words more space, than any one that I know of. I have never succeeded, however, in leaving my cotton at the distance apart which my judgment dictated, for several reasons, viz: I am not an old planter, of established reputation; and great space between the stalks of cotton is contrary to the practice of grey beards and reputable planters. Hence I feel self distrust in my own judgment. Secondly, the cotton plant is so very small at the first working, that no man scarcely can be induced to space it properly at that time, which is of course the proper time; and, besides, all negroes have been so used to the space of the width of a hoe, that unless your eye is upon almost every stroke of the hoe, you can't obtain the space required. These causes, though apparently trifling, are effective in their operation, and require time to overcome them. I have, however, partially succeeded, as the following anecdote will illustrate: This year I employed an overseer who had served one of my neighbors last year—the largest and best planter in the neighborhood. When he had examined my place he inquired of me how I made cotton? "Why," said he, "you have not got the stalks. There are not stalks enough on the ground to make cotton." Yet my crop was more abundant than any of my neighbors, and when Doctor Cloud's publication of his experiment reached me, I resolved to give it a trial—not, however, precisely as he had tried it. My trial has been made so as to ascertain its adaptability to general practice to the great business of the South. So I have used no manure at all, and have tested it upon the natural soil. The idea of manuring a crop of cotton in the South on the Doctor's plan is with a great many preposterous. It can be done on three acres; but we plant ten to the hand, and it would require seven thousand three hundred and fifty bushels to the hand if you did not reduce the size of your crop. Where such an amount of manure is to be procured I can't tell; nor will any one attempt to procure it unless they are supplied with convenient beds of marl. I selected a piece of ground that lies pretty well, and had it broken up deep with Wood's double horse ploughs, and then laid it off both ways, three feet one way and five the other, and planted it, covering with a harrow. I planted only two or three days before

a very heavy rain, which covered the seed so deep and baked the ground upon them, that not more than half a stand got up, and even with the two replantings which I gave it, I got but two thousand two hundred and sixteen stalks on the best acre. I do not think that the ground averaged more than two thousand stalks to the acre. The first planting was not earlier than the tenth of April, and the replantings much later. I gathered, however, 1444 pounds of cotton to the acre. I am satisfied with the result, and shall adopt into my practice of planting more space—but I think that four feet would have been quite sufficient on my ground the wide way. The ground had been cleared four years, and cultivated four. The growth was beech, white and red oak, poplar, sweet gum, and cane above the size of sweet cane, but not so large as the great cane of our brakes generally.

I would not recommend a reduction of the space the narrow way on such a soil as I used, because that space is not more than is required to admit a proper ventilation by wind and light—a matter of great importance in growing cotton. Then I come to this conclusion: that the space should be apportioned to the ground or to the length of the limbs the stalks shoot out. I consult the length of the limbs rather than the roots. My reasons for this I will give you at a more convenient season. The result of my observations upon that cotton are these: I think it grows faster, I mean in the production of fruit. It grows a much more substantial stalk. It grows a great many more limbs, and the limbs are more equally distributed around the stalk—that is, they are not fan-shaped as they are in crowded situations. It is less affected by drought or wet-weather, as is usually indicated by a loss of squares or forms. The bolls are larger and blow open much more freely, and of course the picking is much better; and though I am not perhaps a good judge, I think the staple better—both finer and longer.

I do not wish to be understood by my remarks above, as opposed to manuring land. Far from it; but most of us must arrive at that object gradually, even slowly; but it can be done surely successfully by profitable crops at the same time too. For fear of wasting all the patience of all the parties concerned in your paper, I will take my leave by wishing you every success.

Dec. 31*st*, 1843. A PLOUGHMAN.

Communicated for the Southern Agriculturist.

INTRODUCTION OF MUSKMELLON AND OTHER SEEDS FROM ASIA.

Smyrna, Asia Minor, Oct. 28*th*, 1843.

Dr. JOSEPH JOHNSON:—

My Dear Sir,—I send by a passenger in the vessel which takes this, a small parcel for you, to the care of my father, which con-

tains some more seeds of the Cassaba muskmelon, (of which I sent you some a few years ago,) and also seeds of several varieties of the celebrated Cypress tree of this country. The package marked *No.* 3, I believe, however, will be found to be seeds of a kind of Cypress known in America.

I enclose you also directions for planting which, as well as the seeds themselves I obtained from my friends the Messrs. Van Sennep of Smyrna, descendants of a very old respectable family of this city, who are now making the experiment of cultivating a farm a few miles in the interior upon the European plan.

I hope these seeds, particularly those of the Cypress, may take in our soil, as I cannot think of a more valuable present of the kind which I could make to my native Carolina. After four or five years they will need to be transplanted, and as this must be done in a particular manner, I will let you have directions on the subject at another time.

You were kind enough some years ago to send me some live-oak acorns, &c., which did not succeed, because I then knew no one to whom to commit them. But the Messrs. Van Sennep are the very persons to make the experiment—and they will be very thankful for any favors from you in this line—and I shall be most happy to be the medium of bestowing through you, and through them, such great benefits on both Turkey and Carolina, as might arise from interchange of their respective productions.

I name as among the seeds we should like to receive from you in addition to the *acorn* above mentioned, the following, viz :—

The magnolia.
The hickory.
The pine.
The sugar maple.
The ground-nut.
The sea-island cotton.
The sweet potato, white and yellow.
The tannier.

This last I am not sure that I spell correctly, I refer to a root I have eaten on John's Island, of the size of the Irish potato, or rather of the turnip, white and sweet, and rather dry.

We shall need of course directions for the proper cultivation of any of these seeds which you may be able to send. I do not

know whether the magnolia is propagated from the seed—nor whether you can get the sugar maple—but I thought it best to put them on the list with the others.

As for the sweet potato, I fear we never shall get it safe across the Atlantic. I know it is to be had in France and Spain, but I think not our fine large yellow potato. Could it not be propagated from the seed?

I would like to compare the rice of Carolina with that found here, and would thank you to enclose with the other seeds a little specimen in the rough, and also a little cleaned, of the best quality—and tell me what is the price of the same in Charleston.

I forgot to put on the list on my other page the watermelon. Those we have here are far inferior to the watermelon of our country.

I have had some of our *flint corn* planted at the Van Sennep farm, and it has done remarkably well—and astonishes the Turks very much by its great height and fullness, and the whiteness of the grain. The corn of this country grows generally not higher than a man's knee. All the neighbors of Messrs. Van Sennep are begging for the seed of this Carolina corn. Please to send me a little of the *yellow corn*, the *gourd-seed*.

I was told, perhaps by yourself, that at *New Smyrna, the Turnbull settlement*, there are plenty of olive trees, but wild and fruitless. They say here that if you should graft them one upon the other alternately, or rather interchangeably many times, you would gradually get them to bearing. I know not how true this may be—but every olive tree in Turkey is fruitless until it is grafted.

If I find that you take as much interest as ever in these matters, I shall endeavor to procure and send you a few young olive trees, already engrafted from the bearing olive, and planted in tubs. I should hope they might go safe in the summer season, by the hand of some friendly Captain or passenger. Will you name any thing you would like to have sent from this country.

I am, my dear sir,

Very respectfully, yours,

J. B. ADGER.

DIRECTIONS FOR PLANTING.

Melon Seeds.—The best soil for the muskmelon is a very rich soil, such a soil for example as a drained marsh offers, or in fact

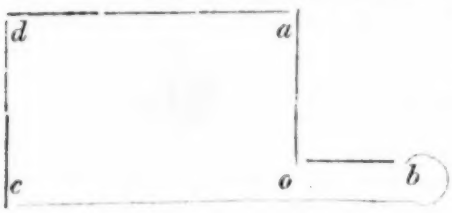
any which has been naturally manured with organic remains and water; but not water in a running state as a brook, for then its formation is sand, which is very prejudicial. In order to aid nature when no rich soil is found, the melon seeds should lay in water well mixed with manure, and that for the space of eight or nine hours, and planted immediately after. This last process agrees very well in a soil of a *calcarious* nature, and does not injure the seed, even when after this it is planted in a rich soil, such as at first described. Always whenever and wherever planted, the seeds should be well washed and separated the one from the other, and immediately planted, this should be done in about two or three inches from the surface of the ground.

Cypress Seeds.—No. 1, are seeds from the large cypress trees which grow in the burying grounds.

No. 2, are seeds from another kind called female cypress, but of a dark color, and grow large, almost as large as the common cypress.

No. 3, seeds from the real female cypress, or the kind which is always planted in parterres and gardens, which never reaches a high size, and is of a light green.

These seeds should be all planted in beds, the soil should be light and calcareous, not manured (or else it will not succeed) any how, the seed should be watered in a peculiar manner, the water should not be poured from the top as rain, but at the side. The annexed rough drawing explains my meaning.



EXPLANATIONS.

a o c d bed in which the seeds should be planted.

b place in which the water must be poured.

The seed should be sowed in the same manner as wheat or barley, with the hand in a loose manner, and very slightly covered with soil.

NORTH-CAROLINA TEA.

A communication appeared in the Richmond Enquirer a short time since, on the culture of Tea, from the China seed, in Greenville county, N. C. It was supposed by many at the time to be a hoax, as the writer, a Mr. Newbell Puckett, was not generally known in the county—but a correspondent of the Raleigh Register thus explains the matter.

"Some business called me to that neighborhood this week, where I met with Mr. Edward Lewis, who informed me that Mr. Puckett was his mother's overseer; and that the letter to the Editor of the Enquirer was no hoax. The fact that Mr. P. came to this State last winter, and has occupied an humble, but respectable station in life, satisfactorily accounts for the limited acquaintance which the neighborhood has with him. At the request of Mr. Lewis, Mr. Robert Eaton and myself visited his mother, the lady in whose service Mr. Puckett is now employed. He states that an acquaintance of his found some seed in a paper of tea, and planted them in a flower box. They vegetated, and the seed of the plant matured in the fall; and were sown the following spring, and cultivated with success. Mr. P. brought some of these seeds with him to this State, and divided them with his employer, Mrs. Lewis. From these, which they sowed last spring, they raised about half a gallon of seed. Mrs. Lewis favored us with some of the tea, prepared in the usual way, and, in flavor, it very much resembles the foreign tea. By comparing the pods, leaves, and stalks, with cuts or plates of the Chinese tea plants, found in encyclopædias, and gazetteers you may perceive a striking similarity. If this should prove to be the genuine article, and can be successfully cultivated in the United States, it may not only keep in circulation among us thousands of dollars, which would otherwise be transported to a foreign land, but will place a pleasant and nutrative beverage in the hands of every cottager.

Yours, most respectfully,

L. K. WILLIE.

Oxford, Jan. 10, 1844.

A NEW VARIETY OF CORN.

From the Farmer's Cabinet.

The following variety of corn it is stated in a paragraph in the Cabinet, was brought from the Oregon Territory:—

Calico Corn.—The readers of the Cabinet may be pleased in hearing of an article of grain, that approaches nearer than any other in making flour and bread similar to wheat. I send a sample of the flour, and two common sized ears of the corn. The

hull or covering of the grain, is of so many and various colors, that when ground fine, some of the particles being bolted through with the flour, may have a tendency to darken it some; but as to the color of the flour or bread, few, if any, could discover from the appearance of either, which was made from the corn, or which from the wheat, when laid by the side of each other. The bread of the corn, when mixed and prepared for baking in the same manner as wheat flour, will become light sooner than wheat; and in mixing, is more difficult; and for pies, does not stick together as well as wheat flour. In taste, a difference can be discovered. But let a person who has no knowledge of the article, make use of the bread, pudding or pies, which occurred at my own table, and let him be asked of what the article was made, and he would pronounce it wheat—so near does it approach to it.

I have said enough by way of recommendation, as it will recommend itself more rapidly than seed can be procured. The object of my present remarks, is more particularly to those who may become possessed of a portion of it to plant, that they may be careful to prevent it from becoming adulterated by mixing. It is not sufficient to plant a portion in the garden, and having a corn-field of other corn near by. It will mix much further than I could have believed, had I not seen it.

In raising what little I have, I planted it the 24th day of six month, and gathered it the 10th inst., and my neighbour having a lot of corn near by, I purchased the privilege of topping, or cutting off the tassel, to prevent mixture. I am told, and believe, as much per acre can be raised, as of other corn; the stalks frequently have two ears on, and the ears generally have as much on as other corn. I have observed almost every color among the grains of this corn, but I have not seen yellow, without believing it was a mixture. I have seen some lots that retained all the colors, but I had no doubt of their being much adulterated, from the hardness and shape of the grain,—of their compactness on the cob, and their straight rows, which do not often occur in the genuine *calico corn*.

Please retain the two ears of corn and flour at the office of the Cabinet, for inspection.

I have omitted to mention, that it ought to be gathered as soon as it is ripe, or it will swell, sprout, and damage; particularly if the weather should be wet or damp. I had one and three-quarter bushels of shelled corn, weighing 72 or 73 pounds, when taken to the mill; and had 30 pounds of superfine, and 20 of common flour—and 21 pounds of bran; and several millers agreed in opinion, that much improvement in grinding might be made, with a little preparation. Respectfully,

A. W. TOWNSEND.

New Brighton, Pa., Tenth mo. 30th, 1843.

SOWING INDIAN CORN BROADCOAST.

Messrs. Gaylord & Tucker :—Having seen sundry interesting communications in your valuable journal, relative to the immense yield of corn sown broadcast, I am induced to give you "my experience," though it is the result of an experiment on a small scale. In the spring of '42, I prepared two squares in my garden, each 20 feet by 30, and sowed them with corn—about half a gallon to each square—though this is too much. When about waist high, I commenced pulling it up by the roots, and feeding it green, to a fine Durham heifer and some pigs; the latter devouring it as greedily as the former

I pulled up and resowed these squares four times during the season, and kept the animals in the finest order, without any thing else worth naming. This year I did the same thing; and I am satisfied nothing will produce *half* as much as corn thus planted or sown. Every time I stripped a square, it was forthwith highly manured, and at once spaded up and resown; and this season I had corn thigh high, when frost came. I generally fed the corn as it was pulled up, but sometimes, for a relish or change, it was cut up and seasoned with meal and salt.

ALPHA.

Memphis, Tenn., Nov. 23d, 1843.

[*Albany Cultivator.*

From the Central New-York Farmer.

HUSSEY'S CORN AND COB GRINDER.

A mill by which the farmer could grind cob and corn, as well as other grain for his stock, has long been wanted. Such a machine can now be obtained, and we take great pleasure in having it in our power to recommend, from eleven months experience, the one invented by Mr. Abell Hussey, of Baltimore, and exhibited by him at the Fair of the N. Y. State Agricultural Society, held at Albany in September, 1842, for which he was awarded the first premium. It is as simple in construction as a grindstone upon a horizontal shaft a cast iron groved plate is placed, in which by means of nuts and screws, steel cutters are secured, for the purpose of cutting the cobs, working against another grooved plate, which is stationary, being screwed to cast iron flanges fastened to the frame.

Both of these plates, (the grinders,) when worn out, can be displaced, and new ones substituted, at an expense of one dollar and fifty cents per pair; and can be taken off and adjusted by any mechanic of ordinary ingenuity. It occupies about three feet square on the floor, weighs about 275 pounds, and is intended for horse or water power. The band wheel on the shaft, is fifteen

inches in diameter, a size intended to reduce the motion sufficiently when driven directly from the drum or driving wheel of an ordinary power, used for threshing machines. By means of a screw and a hand nut at the end of the shaft, it can be set to grind course or fine, at pleasure.

The corn is fed into a tube, one ear at a time, the feeding graduated by the driving power, as it will take feed according to the power applied. "It is capable of reducing," says Mr. Hussey, "with two to four horses, from six to ten bushels of corn and cob, per hour, and it has ground six bushels per hour with one horse, but he was a strong and powerful animal.

The one we have is driven by an overshot water wheel, six feet four inches in diameter, buckets three feet long, and geared so that we get about 300 revolutions per minute. The water is conducted on to the wheel through a tube ten inches square and fifty feet long, which discharges nearly double the quantity the buckets will receive. With this power, we can grind from four to six bushels of corn and cob per hour. After mixing the meal with oats and setting the grinders closer, we have run through it six bushels per hour, reducing it as fine as shorts. It grinds oats better than any mill we have tried, and they have not been few. By attaching a hopper, so that the feeding can be regulated, all kinds of grain may be ground suitable for stock, with ease, and we can confidently recommend it as being a very useful and efficient mill for all the purposes intended.

The whole is substantially made of good materials, and put together in a workmanlike manner. They are manufactured in Baltimore, Md., by O. Hussey, the patentee, and at Auburn, N. Y., by Thos. R. Hussey—price at the manufacturies, including an extra pair of grinding plates, is $35 00.*

We will take the present opportunity of directing the attention of our readers, to the great value of meal, prepared by grinding corn and cob for stock, and from the many evidences of practical farmers, as well as from experiments of our own, we cannot but press it upon the attention of the prudent farmer. Many will object to this on account of the low price at which corn and oats are selling. But we see no reason why a farmer should throw away or squander his feed, because it sells at a low price. We conceive *that* one of the very best reasons why they should economise in every possible manner, so that they can have more to sell, and the quantity make up the deficiency in price.

That there is a nutricious substance in the cob, no one, we think, that has paid any attention to the subject, will pretend to deny. In throwing away the cobs of our corn, we have been wasting very good feed. On distillation of five bushels of cob meal, four gallons of spirits have been obtained, and other nutri-

* For sale by J. D. Legare, 81 East-Bay, Charleston, S. C.

trive matter besides saccharine, such as mucilage and oils, have been found in it. "But besides the actual economy," says a writer in the American Farmer, "there is another advantage in this way of feeding corn, which ought to engage the attention of every farmer. It is notoriously true, that the unground grain of corn is heating to the stomach of all animals, and of difficult digestion, producing cholic and other inflammatory disorders, particularly in horses. They are deprived of the benefits derived from the stimulous of distension (so necessary to the proper health of all animals,) by being unable to eat a sufficient bulk to produce it before they become gorged."

For hogs, corn and cob meal is much improved by scalding, and by boiling with vegetables of any kind, and still more by a partial fermentation.

The manner of feeding stock on raw or unground corn is too common; it is undoubtedly one of the best grains to finish off a lot of stock, but it lacks *bulk*, and is too stimulating without some coarser or more bulky substance to mix with it. Corn alone, gives too much fat inside, without a corresponding bulk of flesh outside. It has been found that corn and oats equally mixed and ground together, would improve and fatten hogs faster than the same amount of corn alone.

It has been questioned by some, and still believed by many, that there is but very little nutriment in corn cobs, but as one proof to the contrary, we will adduce the following:—A farmer a few years since, in Virginia, afraid that his corn crop would not be sufficient to last through the winter, he determined to try, and did winter his horses on corn cobs alone, pounded in a common hominy morter with his own hands. They received no other substance except long forage as hay and fodder. Upon this they did their winter's work, and were in good condition.

And now after having set forth the value of corn and cob meal for stock, the next thing is to put the farmer in the way of procuring it ground. There are very few mills in the country that have the convenience of reducing the cob, and many millers object to have a machine for that purpose in their mill, as they say it injures the gearing, &c., and puts the flouring parts out of order. Besides, in many sections of the country, the mills are several miles distant, and the time employed with a team in carrying the grain to mill, the amount of toll required, and nine times out of ten, the grain would have to be left until the next day, and another jaunt made for it, all of which taken into consideration, we are not so much surprised that the practice of feeding ground food has not been more generally adopted. It is an object worthy the attention of the farmer, to economise and lighten labor, and for that purpose we call the attention of the farmer to Hussey's mill for grinding corn and cob, as well as other grain.

To those who have either horse or water power, the only expense would be the machine, as the same band which propels the thresher, can be placed upon the band wheel of the mill, and it is ready for operation. B.

From the Mecklenburg (N. C.) Jeffersonian.

ON RAISING STOCK, AND BREAKING OXEN, &c.

I have long believed one great error in regard to stock generally is, that we keep too many. This will apply to hogs and other stock, as well as cattle. Some 25 years ago, I bought a cow for which I gave $30 said to possess a cross from the improved English stock of the late Gen. Davis. At the time I was influenced from her good appearance, being young, large and likely, not that I cared much about the blood. From her I raised and kept with my stock two several bulls, and with the produce of that cow, together with the course I pursued, I have improved my stock very considerably, at least they are adjudged to be quite superior to the common run of cattle in the country.

I have limited my number, by making beef of all my common or ordinary heifers at about two years old, saving occasionally some of the likeliest, and from favorite cows, and often not milking more than two or three. Yet I see some others generally keeping much larger numbers in proportion to their force, and the consequence is, that a great many of them look in the spring as though the March winds might blow them off;—and cattle suffered to become very poor in the winter, cant fatten in the summer. One cow well kept is better than four badly, and much easier milked and attended.

Five years ago, I procured a young bull from imported Durham stock, since which I have been taking more pains in raising calves, and find they are fully able to manage all the milk that a well fed cow gives. I let them run with the cow the first month, the second I take about half from the calf once a day, letting it remain with the cow all night. By this time I get the calf learned to lick a little meal and salt by putting with it some already learned, after which it can do with less milk. A tea-cup full of meal twice a day, with as much salt as we usually put in our bread, will do wonders in keeping up their appearance and thrift and they can even be learned to drink slop from a kitchen, though I have not practiced it, but I not long since, saw a calf in Charlotte, sharing greedily with some hogs in the trimmings and wash from the cook house. In New England, part of New York and Pennsylvania, where the profits of the dairy is an object of considerable interest, they raise calves by hand very finely, without ever letting them suck at all; and where a number are sold to the butchers for veal at six or eight weeks old. I often turn my calves in the spring

into the oat field and let them remain till harvest. All the harm a few calves will do in a large oat field can scarcely be perceived. I have noticed a stinted or perished calf, never seems to recover or out grow its early stint or poverty. If one half the calves were killed for veal, or knocked in the head and given to the dogs, and the other half suffered to get all the milk their mothers give, no doubt it would be much better. I deem it all important, they should be well raised the first year. Yet many calves in the country are perished with the churnstaff or otherwise badly treated. I have found much profit in having a cow fat before having a calf, and whoever will try it, will find their profit in taking a cow or a heifer with calf, and stall feeding her as he would a beef. She will be worth two or three common cows, and afterwards with common keeping will hold her flesh and do well for three or four years. I know this from actual experience and aim to have my cows in good condition at that period. A real poverty struck cow I deem utterly worthless, and it costs more to keep her from dying than to support one in good condition. The cow kind are slow to take on flesh, but when once fatted, hold it longer than any other animal. I believe the true policy in this country, would be to feed our milch cows pretty much as we do our horses, (at least part of the year) and keep fewer of them. I endeavor to keep my heifers from having calves till near four years old. Some stock raisers I am aware contend they make better milkers to have calves younger —be that as it may I know they are more tender, harder to keep up, retarded in their growth, and never make cows of as good size and fine appearance. A gentleman told me he had two heifers actually brought calves at 13 months, neither of which did well. I have known one have a calf at 15, another at 17 months. It is necessary to separate them from other stock at an early period.

I have found oxen profitable, have long kept a team, prefer a wagon much to a cart, the process of loading and unloading, the latter, with the burthen all the time on their necks, is injurious. I now have a team I would not change for any horse or mule team. For the purpose of plantation hauling where the distance does not exceed two miles, they are more docile, safe and tractable, and they don't know what it is to have a load they can't go with, if it is only 12 inches at a time—won't fret and baulk, can be trained to go sufficiently brisk, should be drove with a whip like horses instead of a snake pole, as is common. I keep a special driver, they all seem to know their names when he speaks to them, and appear to know what he says, and when empty can make them trot off like horses—the rate of travel depends on the weight of their load. Their gearing is simple and cheap, and the driver can go up to them in or any place, speak to them and they stand till he ropes and yokes them. They are broke with little trouble, and once broke they are never to break again, they don't forget as horses and other animals do. I can take a wild steer and in a few

days have him to work well alongside of a work ox. I break them at 3 and work them to 10, and then fatten them and they are worth more then, than they ever were, and will bring $100 a pair. I have worked one pair to 15, but think it better to fatten them earlier, as when they get old they become heavy, travel slower, become reduced and harder to raise;—they must be well fed to do good service. I feed them when in use nearly as my horses, but when not at work, in the summer season and other times, they can live on pasturage and rough feed as other cattle do. I have never housed cattle save oxen, and in cold bad weather calves for a day or two—have no doubt it would be an advantage and that less food would serve them, but if housed no two will stand together; they must have separate stalls and be fastened up and their houses cleaned every day, otherwise they become filthy, and even their beef and milk would become offensive. This would require the constant labor of a grown hand, and that is not often to spare, while we continue cotton growers, though no doubt the additional manure that might be made in this way, would compensate for the additional labor.

In the valley of Virginia where it is a great deal colder and much more snow, where cattle raising is a business, and they keep large stocks of an improved kind, I see they do not house for the reasons above stated, saying it would be out of the question to house so many. Diseases in cattle well kept are few. I never administer any sort of medicine to any of the animal tribe, and don't lose many, have not even drenched a horse in twenty years. I believe much may be done by kind attentions, nursing and change of food, have lost a few chance cows from over eating of peas, and that was for want of proper care and attention.

As to age, my opinion is that cows may be thirfty and do well till about 15, and near that age I think it good economy to fatten for beef.

All of which is respectfully submitted,
JOHN SPRINGS.

October 20, 1843.

SWINE MANAGEMENT.

Young pigs should become fat as soon as possible, and be kept so till they are ready to butcher. To effect this matter, the dames should have an abundance of rich food, such as kitchen slops, roots, boiled corn, &c.

It is a good practice to have a small pen with a hole, to admit the pig, and a low trough for them to be fed from the time they are two weeks old.

When the pigs are from six to eight weeks old, if they have learned to eat well they should be weaned. At this season there

is greater difficulty than any other. Unless they have close attention, they will become poor, sink behind the shoulders, and scarcely ever recover from it. Let them have food regularly five times per day, and it should be such as will suit the stomach, and be most nutricious. Slops will answer a good purpose, for part of the time; but the food should vary every day. Milk, boiled meal, slops, roots, and dry food, (as corn,) should be given daily. Hogs should have water at all times, and if salted every day, they will do the better for it. Grass and clover are always acceptable to swine, and cimlins, pumpkins, and peas are very good, and artichokes, in winter, (except when the ground is frozen,) are unequalled, partilarly if the hogs have salt and a little dry food daily.

Care must be taken that the hogs do not occupy the same bed too long; and by all means, they should be kept from sleeping in stables, about manure heaps, in shucks, or wet or old straw.

The cheapest pork is that which is made of pigs dropped in the spring and slaughtered in December following. By this process a winter's feed is saved; and by 'pushing,' the pigs will weigh from one to two hundred pounds at eight or nine months old. For large pork, the year olds will do tolerably well; but we think it bad economy to have killing hogs more than twenty months old.

[*Tenn. Agriculturist.*

NEW FOOD FOR SHEEP.

Whilst I was at Geneva, in the autumn of 1837, I observed every one collecting carefully the fruit of the horse-chesnut, and upon inquiry, I learned, that the butchers and holders of grazing-stock bought it readily at a certain price per bushel. I inquired of my butcher, who himself kept a very extensive grazing farm, and he told me it was given to those sheep in particular that were fattening. The horse-chesnuts were well crushed, something in the way, I understand, that apples are previous to cider being made. They are crushed or cut in machines kept solely in Switzerland for that purpose; then about two pounds weight is given to each sheep morning and evening. Sheep eat it greedily; it must be portioned out for them, as too much would disagree with them, it being of a very heating nature. The butcher told me that it gave an excellent rich flavor to the meat. The Geneva mutton is noted for being as highly flavored as any in England or Wales.

[*F. D. Elysee.*

DISEASE IN POTATOES.

Dr. G. B. Smith, a name of weight in the agricultural world, in a letter to an editor in Baltimore, suggests in relation to the pre-

sent extensive rot in the potato, (which he says has destroyed large quantities of Mercers and Pink-eyes this season, in that section of country,) that it is caused by "hot damp weather, as the potato is approaching maturity," and that the disease is a "*fungus* belonging to the same class of vegetable growth as rust and smut in wheat, smut in corn, mould and mildew." He says, "I would recommend that all diseased potatoes be carefully taken out and thrown away, that lime, either quick or air slaked, be sprinkled among the healthy potatoes, just enough to whiten their surface slightly. * * * The appearance of the disease clearly indicates its character, and the remedy seems almost as clearly a matter of course." We think these suggestions are important, and hope they will be acted upon at once, where such a remedy is required. That it was owning to unusually hot and moist weather succeeding that which had been remarkably dry as well as warm, seems probable; and we hope the subject will not be lost sight of, until the true character of this formidable disease is established, and if possible, some check to its spreading discovered.

[*Albany Cultivator.*

GRAFTING VINES.

The following from a French paper will be found interesting to those engaged in the cultivation of the vine:—

On Grafting Vines.—A well-planted vineyard lasts from fifty to sixty years, often longer, and during all that time bears well, if properly attended to. But it is not in full bearing until the sixth, or even the seventh year. This inconvenience, which falls heavy on the planter, is relieved by grafting.

In certain districts of the departments of Bouches de Rhone, Gironde, Cote d'Or and L'Yonne, grafting is much in use and very generally liked.

The principle aim of grafting is to renew the vine the same season that it meets an injury from frost or drought; or to substitute to a poor plant, a slip of a better quality or different species. Grafting, also, as is well known, has a remarkable power of ameliorating the nature of the fruit. It is a very ancient art; when applied to the vine it is easily done, and its success certain. The sap of the vine ascends by all the capillary vessels indifferently, without any distinction between the liber, cortex or wood; a particular in which it is very different from such plants as have their conduits of the sap exclusively between the wood and the bark. This peculiar contexture of the vine fits it for slit-grafting through the whole of the wood. It is unimportant whether the scion be inserted vertically or otherwise; the wood unites to the wood, no matter in what way they are joined. The slit soon fills up, and does not canker as grafted trees usually do.

Grafting, it must be said, is only applied to thick large vines; it has been discovered, at least so the vine-growers of Marne insist, that it does not agree with slender ones.

For grafting the vine, the thickest and the strongest lateral wood must be taken; if the cuttings are of thin twigs they will be likely to wither with the sun and wind. The foot or lower part of a cress-shoot, where there are two or three eyes, very close together, is the kind most likely to succeed; the wood in such a specimen is solid, fibrous, thick; and the circulation plentiful and free. These grafts must be cut before hard frost, tied in bundles, and put away in a cellar or vault, or under loose earth.

The graft should comprise both yearling and two-year old wood; the former should be 8 or 9 inches in length, and the latter, which is to form the wedge to be inserted in the root, should be 3 or 4 inches in length.

Before undertaking the operation, the vine should be allowed to exhaust the first access of the sap, which is so overflowingly abundant in the first fine spring weather; because it is rather distilled water than juice, and the quantity would be likely to drown the grafts. It is therefore more prudent to wait, as is commonly expressed until the vine has done weeping, and which time the buds are so far evolved as to show the leaves.

When speed and economy are to be consulted, two men and a child ten or twelve years of age are necessary. One lays bare the stocks with a hoe to the depth of sixteen inches, and cleans them sufficiently of the earth around for the ingrafter to work at his ease. One of the workmen saws the stems about six or seven inches below the level of the ground; while he is thus employed on the first row, the ingrafter shapes his grafts and arranges them, as fast as he fixes them, in a basin, in which there is enough of water to cover entirely the wedges or inserting points of the grafts; these points must be three or four inches long, and as slender as possible. The sloping of these wedges, in other words their trimming, should commence immediately below the joint or knot by which the two-year-old wood is attached to the yearling wood.

The first row being dug down and sawed, the ingrafter, with a very sharp grafting-tool smooths the sawed part of the root, makes the slit, and inserts two or three grafts, according to the strength of the root, and in such a way as to make the separation between the grafts as small as possible. It is even more easy and certain not to insert the third graft until after the ligature has been put on. The ingrafter is followed by the child who hands him the knife, the grafts, or the strings, or osier, as they are wanted. The child carries a basket filled with short mould. The ligature being tied, the ingrafter lays on a good handful of the mould from the basket, and fills the hole up with loose earth around, leaving only two eyes

of each graft above ground. After this, there are no precautions necessary, save not to derange the grafts during the tillage necessary in the vineyard.

The tillage should not be very deep; nothing more need be done than simply to clear away the weeds by slightly raking the ground. In striving to do more there is a danger of disturbing the new roots that are forming and shooting from the grafts at their insertion.

Vegetation is not very obvious upon them until the month of July; but then the shoots sprout with a surprising rapidity; and if the eyes above ground were really good buds, they will bear grapes which will be ripe in time for the vintage. Large props should not be put down beside the grafts the first year. The purchase they give to the wind causes a shaking of the ground, that puts back the roots. Slender wands a yard long are quite sufficient for props.

To succeed well in grafting, only such species should be joined, as are analogous in their fruit and the texture of their wood. Those kinds that bear thick strong stems will never thrive on stocks of frail and slender branches; but those varieties that have long delicate atoms will become more vigorous and productive if grafted on those having a coarser, stronger sort of wood. But the white kind should not be crossed with the red; the grape only loses by it, if intended for wine; at least the red grape does.

There are many species that are ameliorated by grafting, made to beat choicer fruit and also in greater quantity. And all kinds that will not thrive in the soil, by being inserted into roots that do succeed in it, flourish without difficulty.

Calm clear weather is the only time for grafting. If a heavy rain takes place after it, there are many chances against its ultimate success. Then the superabundant moisture makes the sap watery, and too thin to cement and agglutinate the scion to its new root. As soon as the grafts do take, they must be freed from the weeds. The topping of shoots also should not be forgotten.

From the Central New-York Farmer.

SILK CULTURE.

It is no longer a matter of experiment in this country, as to its being adapted to silk culture. We can raise silk. This is now matter of demonstration. In most of the States silk has been produced, and the quality such as to satisfy the most incredulous that we can raise silk in this country, equal to any in the world. Our climate as well as our soil, is admirably adapted to the mulberry. What then is to hinder us from competing with the old world in manufacture? We answer—there is not any thing. It

is true that the culture of silk must be slow—but is that any reason why it should not receive attention? There was a time, when every thing in this country went upon the rail-road principle. Fortunes were made, and estastes wasted, and States as well as individuals bankrupted, upon that principle. But it is hoped that day has passed, never again to return. Men are beginning to realize that it is by slow and moderate advances, that permanency is to be secured. The fact then, that the silk culture is of slow growth, should not in any measure discourage us, if its progress is sure.

That such is the case, the experience of the last few years abundantly proves. The *multicaulis* excitement has passed away, and has impressed many salutary lessons, that will not soon be forgotten. Men are recovering from the fanciful pictures that were then presented to them, and are now looking at the subject calmly and dispassionately. We believe the result will show, that the culture of silk will in the end, tend greatly to augment the resources of our country.

While we would not recommend to farmers, to devote their whole time and attention to the subject, we would urge upon them the importence of making a beginning. In every family there are those who can be spared, to devote sufficient time and attention to this subject, to test the value of the experiment. The encouragement which the Legislature of New-York has given, is sufficient of itself, to remunerate the farmer—and a market is now provided for all that can be raised and manufactured.

The soil best adapted to the production of good silk, is a gravelly loam. Stony lands, or any warm dry soils are suitable. The raising of silk is neither laborious or difficult. It requires care and attention—but the means of doing the work as it should be, can readily be acquired.

An acre of land will produce under ordinary circumstances from fifty to one hundred pounds of silk, and where strict care and attention is given, a much larger amount has been realized.

The value of the silk varies from four to seven dollars per pound. The expense of cultivation and preparation will not exceed two dollars per pound. The profit of cultivation then can readily be seen. It is more than can be realized from the land, from any other crop.

It doubtless will take time to become so familiar with the process, as to secure that economy, which will be indispensable to complete success. The ingenuity of the American farmer however will soon enable him to derive all the profit of which the business is capable—and none should delay the commencement of the work, where their situation is such as to afford them facilities to carry it on successfully. [Can we not follow this advice in South-Carolina?]

MISCELLANEOUS.

PRESERVATION OF VINES FROM WORMS AND BUGS.

A member of the Legislature and subscriber of the Monthly Vistor requests us to inform our readers that he has found a complete remedy for the cut-worm from the destruction of cucumbers, melons, squashes, &c. in a simple box ten inches or one foot square, and six or eight inches high—set open over the hill, without bottom or cover. Such a box, constructed of refuse boards, set with the lower edge just below the surface, will not only stop the cut-worm, who crawls about the ground in the night, but will be almost a complete protection from the ravages of bugs. The box also in land well prepared will facilitate the growth of vines, especially in a cold season, by taking greater benefit of the sunshine.

[*Visitor*

HOW TO MAKE AN UNPRODUCTIVE FRUIT TREE BEAR.

A lady of our acquaintance took us into her garden a few days ago, where we were shown an apple tree which, she informed us, had been planted for ten or more years, but had never before borne any fruit. In looking over an old volume, she accidently met with what purported to be a remedy for this unproductiveness, which was simply to cut from each limb, close to where it diverges from the trunk, a piece of bark about four inches round the limb, and one inch in width, and immediately replace it by tying it on with a rag until it adhered again. Early in the spring she tried the experiment upon the tree we speak of, leaving, however, two or three of the limbs untouched. The result is, that it is now filled with apples, which bid fair to ripen finely; but it is worthy of remark, that only on those limbs which had been cut is the fruit to be seen. The operation is very simple; and, as it has proved successful in this instance, we have no hesitation in recommending its trial in similar cases. [*Reading Gazette.*

GREEN CORN-STALKS MAKE RICH MILK.

At a late meeting of the Farmers' Club in New-York, Mr. Morris, of Morisania, stated that he kept a dairy of a hundred and twenty-six cows to supply the York market with milk. That he feeds them on green corn—he sows his own broadcast—and says it makes better and richer milk than any other feed he has used, and there can be no doubt that it produces more provender, by the use, than any other vegetable. Mr. Morris' plan coincides exactly with our notion. So much saccharine matter as corn-stalks yield, must make rick milk. [*Farmers' Gazette, New-Haven.*

MANAGEMENT OF PEACH TREES.

Mr. J. S. Skinner, communicates a letter to the Editor of the American Farmer, from Mr. Lyttleton Physick, son of the celebrated surgon, recommending the use of saltpetre to peach trees; he says:—"I use one part of saltpetre to about from 4 to 8 parts of common salt, and apply in its solid state, about ½ lb. of this mixture to a bearing tree upon the surface of the ground, and in close connexion with the trunk of the tree. I never disturb the earth about the tree—for a long time, I applied it 3 times in the course of the year, though twice, I now think will answer—I have heretofore applied it in April, June, and first of September—now last of April and first of September.

"Of 500 trees, 300 were treated with salt and nitre, and 200 left without its use—those around which the salt and saltpetre were put, were and still continue entirely exempt from worms—of those left without the salt and saltpetre, not one escaped the ravages of the peach worm. In your address you speak of the practice of taking out the worm with a hooked wire. Allow me to suggest the proper time for destroying them, (which is from the 15th to the 25th of August with me,) when they have enveloped themselves in a cocoon, or otherwise are in their chrysalis state. The envelope of the aurelia, is made up of the tree, and resembles the outer bark in color, and will be found lying under the gum, on the ground, near the tree, or in connexion with the tree. I have taken in this way, as many as 39 of these worms from one tree, and have seduously watched them building their cells for hours together. The greatest distance I ever obtained one from the tree was about 3½ inches, and have often made them build their chrysalis habitation, under the bark of the tree near the outer opening of their depredations. It is generally believed that this worm causes the yellows—this it may do; but I do not believe that such a case occurs once in a thousand.—I have produced the yellows in young trees, about which there never was a peach worm, and upon taking them up have examined them, but no trace of that insect could be found. The worm I believe to be the effect of bad culture or an error in general culture, and as much as this idea may be laughed at—for I think I see you smile—I believe I can prove it practically. I have five trees that have been in full bearing for 5 or 6 years, about which a worm has never been, although I have endeavored to have them; but as a few years will test this matter with me, upon an extensive scale.

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PURIFIED HONEY.

The following mode of purifying honey is recommended by Siller: "Any quantity of honey is dissolved in an equal part, by weight of water. The liquid is allowed to boil up four or six times, without skimming; it is then removed from the fire, and,

after being cooled, brought on several strong linen strainers, stretched horizontally, and covered with a layer of clean and well washed sand, an inch in depth. When the solution has passed through the strainers, it is found to be of the color of clear white wine; the sand being allowed to remain on the strainers, is rinsed with cold water, and the whole of the liquor is finally evaporated to the thickness of syrup. [*American Farmer.*

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GARDENING MEMORANDA.

The Daisy a guard against the Wire-Worm.—A correspondent of the Gar. Chronicle, after trying innumerable devises, found the daisy a protection, the worms preferring it to all other plants.

Earthen-ware Pipes are used to raise the temperature in plant houses.

Snails.—Decaying blooms of sun-flowers a trap for snails.

Vegetable Nature of supposed Animals.—An eminent French naturalist has found the chalk bearing polypes (P. caliciferes) to be sea-weeds.

Weeds in Ponds.—Swans and ducks will clear ponds of acquatic weeds. Five swans require grass equal to one cow.

Draining.—One hundred and three miles of draining were made on the estate of Mr. Clifton the last year in Scotland.

Mission to China.—Mr. Fortune's horticultural visit to this country is very encouraging.

Excrementitious Matter.—The Journal of Transactions of the Highland Society contains an able article disproving the existence of such substances.

Vapor—Germination.—Numerous experiments prove that plant houses are not generally supplied with the requisite vapor.

Structure and Habits of Plants.—Professor Lindley says the first step a gardener or farmer should take is to make themselves perfect masters of the structure and natural habits of the plants they wish to cultivate—that not one gardener in ten has the requisite knowledge of a strawberry, nor a farmer of wheat.

Dodder.—A parisitical plant called dodder, a species of cuscuta, is destroying the clover in England.

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CHARCOAL.

Mr. Fleet,—Nothing has surprised me more than the fact that so little is known of the use and benefit of Charcoal. Five years ago I witnessed immense benefit from its use in Ohio. It is estimated that the wheat crop of France has been increased many millions of bushels yearly. An English gentleman travelling in France within two or three years observed the general improve-

ment of the wheat crop from what it was years before in the same section of country. Upon inquiry he found that the farmers had been using fine charcoal, sowed on the ground broad-cast. In 1842, R. L. Pell, Esq. of Pelham, Ulster Co. N. Y., cultivated a field with a hoed crop, and used three hundred bushels of oyster-shell lime to the acre—in the fall he sowed it down with wheat, and added fifty two bushels of fine charcoal to the acre. The wheat before sowing had been soaked in strong brine, and then rubbed in charcoal and slacked lime. The product was at the rate of *seventy-eight* bushels and three pecks to the acre. B.

[*New-York Farmer and Mechanic.*

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RUSSIAN SUGAR TURNIPS.

The seed was grown in the garden of N. Bently, of Rome, N. Y. The turnip is an excellent article, resembling the Ruta-Baga, but is superior in flavor. The tops of the Ruta-Baga grow from the turnip, but the Russians differ in this respect. They grow a neck like a bottle, and the leaves arise from the neck, and not from the turnip itself. They should be sown in drills two and a half feet apart, and the plants should stand from six to ten inches apart when grown. The first of June is the time to sow, in good garden soil, and they will produce a sweet rich solid turnip, weighing from five to seven pounds. N. BENTLEY.

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AIR OF STABLES.

Horses, especially racers and hunters, are subject to inflammatory diseases. It is also asserted that grooms are short lived. This is attributed to the ammonia from manure. Gypsum moistened with sulphuric acid placed in open vessels absorbs the ammonia, and renders the stables sweet and healthy. Saw-dust is substituted for the gypsum. [*New-York Farmer and Mechanic.*

RUFFIN'S REPORT OF THE AGRICULTURAL SURVEY OF S. CAROLINA.

We have been favored with a copy of the above valuable publication in pamphlet form, and shall make some extracts from it hereafter, in the mean time we have been requested to make known the following corrections.

To the Editor of the Southern Agriculturist:—

NOTE TO THE "REPORT OF THE AGRICULTURAL SURVEY."

The delay of the printing of the "Report of the Agricultural Survey," (as submitted to the Legislature on Nov. 30th, 1843,) prevented my seeing the proof-sheets, except of the first 48 pages. For the remainder of the publication from my own manuscript,

some of the worst errors of the press will be here noted, and such only as affect materially the designed meaning of the writing. All minor errors, which may be understood and corrected by the reader, are passed over. I readily admit that the badness of my hand-writing, and also the hurried manner in which the later additions to my Report were written and inserted, mostly in sickness and under other difficulties, furnished ground of excuse to the printers for numerous typographical errors.

EDMUND RUFFIN,
late Agricultural Surveyor of So. Ca.

Hanover County, Va., Jan. 19, 1844.

ERRATA.

Page 49, line 26, after 'of' insert *them*.
same, for 'Essays' read *Essay*.
" 50, line 13, for 'yearly' read *early*.
" 53, " 16, for 'justifiable' read *profitable*.
" 54, " 9, transpose 'is permanent, so made,' *to so made is permanent*.
" 53, " 3 from bottom, for 'occasionaliy' read *economically*.
In 'tabular statement' (at page 56,) in column of 'explanatory remarks,' line 35, for excepting No. 7, and of each one,' read *and of each one, excepting No. 7*.
Page 60, line 1, for 'effecting' read *affecting*.
" 64, " 17, for 'plasters' read *plasterers*.
" 70, " 31, for 'more' read *worse*.
" 72, " 20, for 'tide on other' read *tide or other*.
" 73, " 19 from bottom, for 'solid, and' read *and solid*.
" 74, " 2, for 're-created' read *recruited*.
" 75, " 13, for 'chiefest' read *cheapest*.
" 77, " 5, transpose 'rejects, and from its circulation exudes,' to *rejects from its circulation and exudes*.
" 81, " 2 from the bottom, for 'scanty' read *sandy*.
" 84, " 23, after 'rapid' insert *the*.
" 86, " 15 from bottom, for 'countries' read *country*.
" 88, " 10 from bottom, for 'ferriage' read *passage*.
" 88, " 2 from bottom, for 'quality' read *quantity*.
" 89, " 16 and 7 from bottom, for 'alluvian' read *alluvium*.
" 92, " 21, for 'does not' read *does*.
" 99, " 23 from bottom, for 'increasing' read *unceasing*.
" 100, " 7, after 'between' insert *different*.
" 100, " 12, after 'under growth' insert *is*.
" 100, " 2 from bottom of section, for 'an' read *a smaller*.
" 102, " 18, for 'of higher land at first' read *of the higher land at first is*.
" 103, " 17, for 'clearings' read *cleanings*.
" 103, " 12 from bottom, before 'Savannah' insert *the*.
" 103, " 5 from bottom, for 'embarked' read *embanked*.
" 104, " 20 and 5 from bottom, for 'cleared' and 'clearing' read *cleaned and cleaning*.
" 106, " 5, for 'to' read *the*.
" 111, " 4, erase *samples*.
" 114, " 11 from bottom, for 'John W. Allston,' read *John H. Allston*.
" 114, " 7 from bottom, for 'draining off' read *drawing off*.
" 114, " 6 from bottom, for 'clearing' read *cleaning*.
" 115, " 9 from bottom, for 'sprung' read *sprang*.

☞ Editors of newspapers throughout South-Carolina are respectfully requested to copy the above—and readers of the Report to mark the corrections on the margins of the pages.